

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

MATSUSHITA ELECTRICAL                    )  
INDUSTRIAL CO., LTD.,                    )  
  )  
          Plaintiff,                        )  
  )  
          v.                                ) Civ. No. 01-882-SLR  
  )  
CINRAM INTERNATIONAL, INC.               )  
  )  
          Defendants.                       )

**MEMORANDUM ORDER**

At Wilmington this 5th day of January, 2004, having heard oral argument and having reviewed the papers submitted in connection therewith;

IT IS ORDERED that the disputed claim language in U.S. Patent Nos. 5,681,634<sup>1</sup> and 5,972,250<sup>2</sup> ("the '634 patent" and "the '250 patent", respectively) as identified by the above referenced parties, shall be construed as follows, consistent with the tenets of claim construction set forth by the United States Court of Appeals for the Federal Circuit:<sup>3</sup>

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<sup>1</sup>U.S. Patent No. 5,681,634 issued October 28, 1997.

<sup>2</sup>U.S. Patent No. 5,972,250 issued October 26, 1999 as a divisional of U.S. Patent No. 5,681,634. The specifications for the two patents are identical. Consequently, references herein to the specification of U.S. Patent No. 5,681,634 apply equally to U.S. Patent No. 5,972,250.

<sup>3</sup>The court notes that its claim construction is not final until judgment is entered. The parties in the case at bar have provided an excessive amount of paper upon which the court is to determine the proper claim construction. Furthermore, the parties apparently developed their claim construction with a focus on obtaining summary judgment of infringement or

**A. The 5,681,634 Patent**

1. **"Disk-shaped optical information medium."** The parties appear to agree that this phrase should be interpreted to mean "a disk on which information is stored or retrieved by optical means, using a laser." No further construction is necessary.

2. **"Substrate."** The court construes the term "substrate" to mean "a flat, thin disk-shaped sheet of hardened transparent material." The court does not read the term "substrate" as used in the claim language to require a specific thickness, despite MEI's position that the term "substrate" is limited to a thickness of approximately 0.6 mm. The specification provides for a thin substrate. (See '634 patent, col. 8, ll. 53-61; col. 21, ll. 24-29) However, the specification does not define a "substrate" as having a thickness of approximately 0.6 mm. Example 1 and Figure 3 of the specification merely relate to one embodiment of the claimed invention where the thickness of the substrate happens to be 0.6 mm. (See '634 patent, col. 10, ll. 60-63; fig. 3) The specification describes eight other examples where the thickness of the substrate is not restricted to approximately 0.6 mm.

3. **"A radiation curable resin."** The parties

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invalidity. If, on a more developed record, the court finds that the current claim construction is in error, the court will re-construe the claims accordingly.

appear to agree that this phrase should be interpreted to mean "adhesive that is hardened by exposure to radiation." No further construction is necessary.

4. **"Stopper."** The court construes the term "stopper" as a structural limitation to mean "a part of a substrate that may be used to stop the flow of resin to the center hole." Claim 1 recites "wherein the optical information medium further comprises a stopper," thereby implying that the stopper exists as part of the substrate. ('684 patent, col. 22, ll. 20-21) Various dependent claims disclose specific stopper embodiments. Dependent claims 2 through 5 recite "concave/convex portions" and a "ring-shaped groove," and claim 10 recites a "sealant layer." These embodiments, by their very nature, are formed from the substrate. Moreover, claim 18 substantiates this interpretation by reciting the method for fabricating an optical information medium which includes "the step of forming a pair of substrates [that] includes the step of forming a stopper." ('684 patent, col. 24, ll. 1-4) Additionally, the plain language of both the claims and the specification preclude a construction where the stopper must perform the function of preventing resin from protruding into the center hole of the substrates. Claim 6 allows resin to spread to the position of the stopper. Since claim 6 depends on claim 1, claim 1 must be broader than claim 6. As such, claim 1 is not limited to filling the stopper with

resin. Likewise, the specification states that resin does not necessarily fill the stopper. (See '634 patent, col. 11, ll. 52-56)

5. **"Clamp region."** The court construes the term "clamp region" to mean "a donut-shaped region with an inner and outer diameter located between the center of the optical information medium and the information layers used to secure an optical disk to a turntable of a recording/reproducing apparatus." The term is explicitly defined in the specification. (See '634 patent, col. 11, ll. 10-13) Figure 3 also depicts the "clamp region." (See '634 patent, fig. 3) In addition, the specification provides an example of this region for one type of optical information media. In the case of DVDs, the specification states that the clamp region occupies the portion of the disk ranging from 11 mm to 16.5 mm from the center of the disk. (See '634 patent, col. 11, ll. 12-17)

6. **"A space between the first and second substrates of at least a half of a clamp region for clamping the optical information medium is filled with the resin."**

The court construes the phrase "a space . . . is filled with the resin" to mean "radiation curable resin fills at least half of the vertical gap that exists between the two substrates in the horizontal area of the clamp region." The specification explains that a large gap exists between the substrates. (See '634 patent, col. 11, ll. 35-38) The specification also explains that

radiation curable resin must fill at least half of the vertical gap that exists between the substrates in the clamp region to obtain stable clamping. (See id.) Additionally, Figures 5A through 5C show the application of resin to the space between the substrates and the process of "spinning" the substrates to spread the resin to the outer edge of the optical information medium. (See '634 patent, fig. 5A-5D) The specification also teaches how to fill half of the clamp region with resin using DVDs as an example. (See '634 patent, col. 11, ll. 34-51) That is, resin must be spread to a position on the DVD that is 27.5 mm in diameter or less from the center hole when the inner diameter is 22 mm from the center hole and the outer diameter is 33 mm from the center hole. (See id.)

7. **"Ring shaped groove."** In line with its ordinary meaning and the specification, the court interprets the term "ring-shaped groove" to mean "a circular-shaped channel or furrow.". The term groove is defined to mean "a long, narrow furrow or channel."<sup>4</sup> It is modified by the adjective "ring-shaped." The term "ring-shaped" is ordinarily understood to mean "circular," since the term "ring" is defined to mean "a circular object, form or arrangement with a vacant circular center."<sup>5</sup>

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<sup>4</sup>The American Heritage Dictionary 578 (second college ed. 1982).

<sup>5</sup>The American Heritage Dictionary 578 (second college ed. 1982).

Moreover, Figures 3 and 5A show a circular-shaped channel. (See '634 patent, fig. 3; fig. 5A-5D)

8. **"Center of a clamp region."** The court interprets the phrase "center of a clamp region" consistent with its ordinary meaning. The term "center is defined as "a point equidistant or at the average distance from all points on the sides or outer boundaries of something; middle."<sup>6</sup> Therefore, the court construes "center of a clamp region" to mean "the mid-point between the inner and outer boundaries of the clamp region."

9. **"Radioactive rays."** The parties appear to agree that the term "radioactive rays" should be interpreted to mean "radiation." No further construction is necessary.

10. **"Radioactive rays passing through the first substrate and radioactive rays passing through the second substrate radiate the radiation curable resin so as to cure the radiation curable resin."**

Consistent with the plain language of the claim, the court interprets the phrase "radioactive rays passing . . . to cure the radiation curable resin" to mean that "radioactive rays must pass through both the first substrate and the second substrate, but that the optical information medium need not be cured from both sides." Since the term "substrate" is construed to mean "a flat, thin disk-shaped sheet of hardened **transparent** material," the

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<sup>6</sup>The American Heritage Dictionary 578 (second college ed. 1982).

court reasons that exposure to radioactive rays from one side or both sides will cure the optical information media. (Emphasis added) The specification substantiates this construction by explaining that an optical information medium may be cured by either the conventional method of exposing only one substrate to one source of radiation or by simultaneously exposing both substrates to two sources of radiation as described in Examples 5 and 9. (See '634 patent, col. 17, ll. 28-41; col. 20, ll. 56-59) Figures 2A through 2D and 15 depict the former method, and Figure 19 depicts the latter method. (See '634 patent, fig. 2A-2D; fig. 15; fig. 18-19) .

11. **"Wherein the radiation curable resin does not exist in a region adjacent to the center holes of the first and second substrates."**

The court construes the phrase "wherein the radiation curable resin does not exist in a region adjacent to the center holes of the first and second substrates" as not limiting the size or shape of the resin-free region to a particular dimension. The court finds that the meaning of this phrase is clear from the plain language of the claim and the intrinsic evidence. The court does not read the plain language as requiring the region adjacent to the center hole to be larger than a micron or any other specific numeric measurement. The specification supports this interpretation by stating that "[t]he Inventors have further found that, in order to obtain stable clamping, it is necessary

to supply the radiation curable resin to at least a half of the clamp region." ('634 patent, col. 11, ll. 39-41) Based upon this language, the court notes that resin may fill only half of the clamp region or it may fill the entire clamp region. As such, the court concludes that the resin-free region is of variable size and shape, albeit it must be of a measurable size.

#### **B. The 5,972,250 Patent<sup>7</sup>**

1. **"Optical information medium."** The parties appear to agree that this phrase should be interpreted to mean "a disk on which information is stored or retrieved by optical means, using a laser." No further construction is necessary.

2. **"Substrate."** The court construes the term "substrate" to mean "a flat, thin disk-shaped sheet of hardened transparent material." The court does not read the term "substrate" as used in the claim language to require a specific thickness, despite MEI's position that the term "substrate" is limited to a thickness of approximately 0.6 mm. The specification provides for a thin substrate. (See '250 patent, col. 8, ll. 53-61; col. 21, ll. 24-29) However, the specification does not define a "substrate" as having a thickness of approximately 0.6 mm.

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<sup>7</sup>The parties agree that claim terms common to both the '634 patent and the '250 patent will be interpreted to have the same meaning. (D.I. 188 at 12)



Example 1 and Figure 3 of the specification merely relate to one embodiment of the claimed invention where the thickness of the substrate happens to be 0.6 mm. (See '250 patent, col. 10, ll. 60-63; fig. 3) The specification describes eight other examples where the thickness of the substrate is not restricted to approximately 0.6 mm.

3. **"A radiation curable resin."** The parties appear to agree that this phrase should be interpreted to mean "adhesive that is hardened by exposure to radiation." No further construction is necessary.

4. **"Stopper."** The court construes the term "stopper" as a structural limitation to mean "a part of a substrate that may be used to stop the flow of resin to the center hole." Claim 1 recites "wherein the optical information medium further comprises a stopper," thereby implying that the stopper exists as part of the substrate. ('250 patent, col. 22, ll. 20-21) Various dependent claims disclose specific stopper embodiments. Dependent claims 2 through 5 recite "concave/convex portions" and a "ring-shaped groove," and claim 10 recites a "sealant layer." These embodiments, by their very nature, are formed from the substrate. Moreover, claim 18 substantiates this interpretation by reciting the method for fabricating an optical information medium which includes "the step of forming a pair of substrates [that] includes the step of forming a stopper." ('250 patent,

col. 24, ll. 1-4) Additionally, the plain language of both the claims and the specification preclude a construction where the stopper must perform the function of preventing resin from protruding into the center hole of the substrates. Claim 6 allows resin to spread to the position of the stopper. Since claim 6 depends on claim 1, claim 1 must be broader than claim 6. As such, claim 1 is not limited to filling the stopper with resin. Likewise, the specification states that resin does not necessarily fill the stopper. (See '250 patent, col. 11, ll. 52-56).

5. **"While the first substrate is being rotated."** Based upon the plain language of the claims, the court construes the phrase "while the first substrate is being rotated" to mean that the first substrate must be rotated while resin is applied. The specification supports this interpretation by teaching that "[w]hile the first substrate 1 is rotated at low speed (20 to 120 rpm), the radiation curable resin 7 is applied to a portion of the substrate closer to the outer circumference with respect to the groove to form a donut-shaped resin layer." ('250 patent, col. 12, ll. 27-29)

Sue L. Robinson  
United States District Judge